CLAIMS:

1. An arc discharge metal halide lamp for use in selected lighting fixtures, said lamp comprising:

a discharge chamber having visible light permeable walls of a selected shape bounding a discharge region through which walls a pair of electrodes are supported in said discharge region spaced apart from one another by a distance L_e with said walls about said discharge region having an average diameter along L_e equal to D so as to satisfy $4 < L_e/D \leq 5$; and

ionizable materials provided in said discharge region of said discharge chamber comprising a noble gas, a sodium halide and mercury in an amount sufficiently small to result in a voltage drop between said electrodes during lamp operation that is less than 110 V rms at a selected value of electrical power dissipation in said lamp.

2. The device of claim 1 wherein said voltage drop between said electrodes during lamp operation exceeds 50 V rms.

3. The device of claim 1 wherein said discharge chamber is made of a ceramic material.

4. The device of claim 1 wherein said selected value of electrical power dissipation divided by that surface area of said discharge chamber adjacent to said discharge region as a chamber wall loading is between 30 and 70 W/cm^2.

5. The device of claim 1 wherein said selected value of electrical power dissipation divided by that surface area of said discharge chamber adjacent to said discharge region as a chamber wall loading is between 20 and 70 W/cm^2.

6. The device of claim 1 wherein said ionizable materials further comprise a cerium halide.

7. The device of claim 2 wherein said voltage drop between said electrodes during lamp operation is between 50 and 100 V rms.

8. The device of claim 3 wherein said ceramic material is polycrystalline alumina.

9. An arc discharge metal halide lamp for use in selected lighting fixtures, said lamp comprising:

a discharge chamber having visible light permeable walls of a selected shape bounding a discharge region through which walls a pair of electrodes are supported in said discharge region spaced apart from one another by a distance L_e with said walls about said discharge region having an average diameter along L_e equal to D so as to satisfy $L_e/D \leq 5$; and

ionizable materials provided in said discharge region of said discharge chamber comprising a noble gas, a cerium halide and mercury in an amount sufficiently small to result in a voltage drop between said electrodes during lamp operation that is less than 110 V rms at

a selected value of electrical power dissipation in said lamp.

10. The device of claim 9 wherein said voltage drop between said electrodes during lamp operation exceeds 50 V rms.

11. The device of claim 9 wherein said discharge chamber is made of a ceramic material.

12. The device of claim 9 wherein said selected value of electrical power dissipation divided by that surface area of said discharge chamber adjacent to said discharge region as a chamber wall loading is between 30 and 70 W/cm^2.

13. The device of claim 9 wherein said selected value of electrical power dissipation divided by that surface area of said discharge chamber adjacent to said discharge region as a chamber wall loading is between 20 and 70 W/cm^2.

14. The device of claim 9 wherein said ionizable materials further comprise a sodium halide.

15. The device of claim 10 wherein said voltage drop between said electrodes during lamp operation is between 50 and 100 V rms.

16. The device of claim 11 wherein said ceramic material is polycrystalline alumina.